

REMARKS/ARGUMENTS

The present Amendment amends claims 16, 30, 34, 37, and 38. Upon entry of this Amendment, claims 16-21 and 23-38 will be pending. Accordingly, the application currently presents twenty-two (22) total claims, of which one is independent (claim 16). In light of the request for one month of extension, Applicant expects a fee of \$130 to be due, which is being paid electronically with submittal of this Amendment. For any other fees which are deemed necessary following submittal of this Amendment, the undersigned hereby authorizes such fees to be charged to our deposit account, Deposit Account No. 061910.

Summary of Standing Rejections

Applicant respectfully thanks Examiner for considering further arguments submitted on September 12, 2008 in the Response to Final Office Action. As indicated in the Advisory Action dated September 23, 2008, Examiner found Applicant's argument regarding "vertical axis" and "horizontal axis" being used as structural elements of the Cartesian robotic system to be persuasive. However, Examiner further maintained her previously-raised 102(e) and 103(a) rejections.

Specification

As requested by Examiner, the specification of the application is hereby amended, in order to change the recitations of "horizontal axis" and "vertical axis" to "horizontal rail" and "vertical rail", respectively, so the corresponding claim language (as now provided in claims 16, 37, and 38) is in accordance with its ordinary meaning. Accordingly, previously-amended paragraph [0028] of Applicant's published application is hereby amended in such manner.

Further, paragraph [0028] is amended to describe the horizontal rail 27 as extending entirely across the stacked disks 9, with a portion of the rail 27 extending above the opening 7 of the shelf 6. Such is clearly shown by Fig. 1, and as such, involves no new matter being added.

Claim Rejections – 35 USC § 102(e) and 35 USC § 103(a)

As alluded to above, Examiner maintains her rejections of claims 16, 24-29, 31, 33, and 35-36 under 35 U.S.C. 102(e) as being anticipated by Pressman et al. (U.S. Patent Pub. No. 2003/02118487; hereinafter "Pressman"), and her rejections of claims 17-23, 30 and 34 under 35

U.S.C. 103(a) as being unpatentable over Pressman in view of Knippscheer et al (U.S. Patent No. 5,233,844; hereinafter "Knippscheer"). Applicant continues to respectfully traverse the above 102(e) and 103(a) rejections and asserts that the teachings of the present invention differ significantly from those of Pressman and Knippscheer, either viewed singly or in combination. However, to advance prosecution, Applicant has amended claim 16, as described below. Accordingly, Applicant respectfully asserts that neither of Pressman or Knippscheer, whether used singly or in combination, teaches or suggests the features of amended claim 16.

In particular, claim 16 now includes further features, which find support both in the specification and drawings. One of these features involves the Cartesian robotic system being configured to direct a pick-up device in horizontal and vertical directions only (for support, see, for example, Fig. 1 and paragraph [0020] of Applicant's published application and paragraph [0028] of Applicant's published application, as amended). One objective addressed by the present invention is to provide a system improved in terms of easiness in insertion and extraction of samples from multiple chambers. Accordingly, the invention of claim 16 provides a Cartesian robotic system 4 disposed in an upper chamber 2. The system 4 comprises (i) a horizontal rail 27 extending entirely across the stacked disks 9, with a portion of the rail 27 extending above the opening 7 of the shelf 6, and (ii) a vertical rail 28 *horizontally* movable along the horizontal rail 27 and along which a pick-up device 18 can *vertically* move into and out of a lower chamber 1 (via the opening 7) for loading or unloading the samples 19. One advantage of the present invention is its simplicity; that is, the insertion/extraction of the samples is carried out in only two degrees of motion with respect to the robotic system. Accordingly, the invention is less prone to system problems, which can be encountered using more complex systems.

It is Applicant's view that Pressman teaches one such complex system. In particular, the system of Pressman teaches a gripper 312 requiring mobility in three degrees (e.g., as described in Pressman at Paragraphs [0133] and [0137] in reference to Figs. 12-15 and 19). Apart from a vertical motion, which also occurs in the present invention, the gripper 312 of Pressman involves a combination of rotary motion of the arm 304 (around a vertical axis) with horizontal extension or withdrawal of the same arm to reach a position vertically aligned with the sample to be unloaded. The skilled artisan would recognize the Cartesian robotic system of claim 16 to be a less complex system (as it involves movements in only the horizontal and vertical directions)

than the corresponding system taught by Pressman, and therefore, cannot be anticipated by Pressman.

By way of comparison, Knippscheer teaches a system seemingly even more complex than the system of Pressman. Accordingly, Applicant respectfully asserts that Knippscheer also fails to teach the system of claim 16, and further fails to address the above-described deficiency of Pressman. For example, the extraction process according to Knippscheer, due to the vertical aligning of the arm 190 with a chord of the shelf 24 (for reference, see figures 11 and 14), needs a third rotating auxiliary arm 196, to place the specimen in a position vertically aligned with a holder 130 after being shifted on the arm 190; e.g., as described in col. 10, lines 22-44. In addition, the extraction process also comprises the steps of moving a tray bearing a specimen from its position in the storage unit towards the doorway 48; e.g., as taught in col. 7, lines 45-68. Consequently, the manner of inserting and removing samples disclosed in Knippscheer is at least distinct from the system of claim 16 because it requires three degrees of movement. Thus, similar to the system of Pressman, Knippscheer's system is more articulated or complex as compared to the system of claim 16, which requires movements of the pick-up device in only the horizontal and vertical directions.

Furthermore, with reference to Figure 11 of Knippscheer, the solution as provided in claim 16 could not be implemented, due to the position of the access opening 100 of the system, which is not vertically aligned with the horizontal arm 190 of the insertion/extraction apparatus. Consequently, the auxiliary arm 196 requires not only to be linearly moved along the horizontal arm 190, but also must be rotated from the rest position shown in Figure 11 to an active position above the access opening 100.

Another feature of claim 16 involves a horizontal rail extending entirely across the stacked disks with a portion of the horizontal rail extending above the opening of the shelf (for support, see, for example, Fig. 1, and paragraph [0028] of Applicant's published application, as amended). As already referenced above, such horizontal rail 27 is used in conveying a vertical rail 28 of the system horizontally to enable positioning of a pick-up device 18 (fitted to the vertical rail 28) over an opening 7 in the shelf 6 so as to store or remove a sample from the lower chamber 1. By not having the horizontal rail 27 extending entirely across the stacked disks 9, there would be potential that the pick-up device 18 could not be properly positioned (via the

vertical rail 28) to store or remove a sample from a location on the disks 9, as range of motion for the pick-up device 18 is limited to horizontal and vertical directions.

To that end, Applicant respectfully asserts that the Pressman system works without such a horizontal rail extending entirely across the vial trays 330. Simply put, this deficiency results from the very design of the Pressman system and its differences from the system of claim 16. As Applicant has already described, the system of Pressman requires the gripper 312 to have movement in three degrees. Consequently, the Pressman system does not warrant a horizontal rail extending entirely across the vial trays 330, as Applicant claims. As Examiner has explained, Pressman at paragraph [0133] only achieves horizontal extension from actuation of the lateral lead screw motor 314. Accordingly, while there may be horizontal extension from time to time during insertion or removal of vials, the Pressman system does not include a horizontal rail that extends entirely across the vial trays 330, as is required by claim 16.

Likewise, Applicant respectfully asserts that Knippscheer fails for much the same reasons as Pressman. As described above, the insertion and removal of samples disclosed by the system in Knippscheer requires three degrees of movement. Consequently, the Knippscheer system does not warrant a horizontal rail extending entirely across the vial trays 26. While there is some horizontal length to the arm 190 of the Knippscheer system, it does not extend entirely across the stacked vial trays 26, as required by claim 16. Accordingly, at least because of this deficiency, Applicant respectfully asserts that Knippscheer fails to teach the system of claim 16, and further fails to address this deficiency with respect to Pressman.

A further feature of claim 16 involves the lower chamber being in selective communication only with an upper chamber located above and separated from the lower chamber by means of a shelf fitted with an opening, and the upper chamber being in selective communication with external world only by an I/O drawer (see Fig. 1 and paragraphs [0015], [0020], [0027], and [0033] of Applicant's published application).

Following a thorough review of Pressman, no teaching can be found regarding such a degree of containment for its system. However, Examiner has asserted that the system of Knippscheer does teach a temperature-controlled thermo-insulated chamber 22 separated from an upper chamber 122 by a thermally insulated shelf 50 with a swingable or slideable door 100 for closing an access opening 48. As such, there is potential for the skilled artisan to combine the

teachings of Knippscheer with Pressman to address the feature of Applicant's invention with respect to a system having such contained upper and lower chambers. However, it is Applicant's position that the skilled artisan would not be drawn to combine the asserted teachings of Knippscheer with Pressman in such manner, as described below.

Throughout Pressman, there are teachings of removing and replacing the vial trays 330 in the LBP device. For example, in paragraph [0016], Pressman describes the vials initially being loaded manually into space-saving trays, which can then be loaded into the LBP device. In addition, in paragraph [0024], mention is further made of the trays being readily removable from the system. Also, in paragraph [0134], in reference to Figs. 17-20, it is described that specimen vials 10 are stored in special injection molded plastic vial trays 330 that slide into the machine on shelves 320 (see Fig. 12). Further, in paragraph [0138], further aspects of the trays 330 are described, e.g., guide posts 336, which serve as stacking posts when the trays 330 are stacked for storage (see Fig. 20). Accordingly, one skilled in the art would appreciate that in using the system of Pressman, the vial trays 330 within the lower chamber are configured for frequent change-out, and even storage outside the lower chamber. Consequently, the system of Pressman teaches away from systems in which the lower chamber (used for storing samples) is predominantly contained, much less provided to be a temperature-controlled thermo-insulated lower chamber. Thus, a different system for storing specimens is taught from that of Knippscheer.

Accordingly, the seemingly standard change-out of trays 330 taught in Pressman makes it unnecessary to provide a system having chambers contained to the degree as provided in claim 16. Applicant respectfully asserts that one skilled in the art would not be logically drawn to combine the teachings of Knippscheer with Pressman in addressing this deficiency, as it would result in increased fabrication and maintenance costs, not to mention delay in change out of the trays 330 for the Pressman system.

Applicant asserts that upon entry of this Amendment, the claims are hereby in condition for allowance. For the above reasons, Applicants believes claim 16 should be allowed. In turn, the allowance of claim 16 thereby renders claims 17-21 and 23-38 also allowable. Favorable consideration and prompt allowance of the application are respectfully requested.

Conclusion

Applicant believes that no new matter will be introduced by entry of these amendments and that the amendments are fully supported by the specification and application as a whole. Applicant has amended the claims solely to advance prosecution of this application and to obtain the allowance of claims at the earliest possible date. No admission should be inferred by these amendments. Applicant reserves the right to prosecute the originally filed claims in a continuation application. If the Examiner feels that prosecution of the present application can be materially advanced by a telephonic interview, the undersigned would welcome a call at the number listed below.

Respectfully submitted,



John S. Parzych

Reg. No. 52,097

Customer No. 22859
Fredrikson & Byron, P.A.
200 South Sixth Street, Suite 4000
Minneapolis, MN 55402-1425 USA
Telephone: (612) 492-7000

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